Rcvd 15Feb72

Report of the Protocol Workshop 1

12 October, 1971 1a

By Jon Postel. 1b

Introduction 2

This is a report on the decisions reached at the protocol workshop held in conjunction with the Network Working Group meeting held in Cambridge from 10 to 14 October, 1971. 2a

The workshop addressed itself to protocols of four types: IMP-Host, Host-Host, Initial Connection, and Process-Process. 2b

IMP-Host Protocol 3

The idea of IMP provided status reports to be exchanged via new IMP-Host protocol messages was discussed and rejected because it was felt that the level of state information which could be reported was not sufficient to be worth the trouble of implementing this mechanism. 3a

Host-Host Protocol 4

The Host-Host Protocol was discussed and several problems were brought to light, among them were the following listed togetner with the group's recomendations. 4a

The GVB - RET mechanism may prove useful sometime in the future so it will be retained though no one appears to be using it now, however spontaneous RET commands are explicitly prohibited. 4a1

The ECO - ERP commands are useful and should be supported, but spontaneous ERP commmands are explicitly prohibited. A further restriction is that a second ECO will not be sent until the first ECO has been answered. Note that any of the following may be an answer to an ECO: ERP, RST, "Destination dead", or "Incomplete transmission". 4a2

The RST - RRP commands are useful, but the proper use of these commands for determining the status of host software is still open for discussion (please direct comments to Jon Postel), however spontaneous RRP commands are explicitly prohibited. 4a3

The problem of unmatched CLS commands was discussed and four "solutions" were proposed: 4a4

Hold forever 4a4a

Send a RST and clear the entry 4a4b

Clear the entry and possibly mess up a future connection 4a4c

Assign socket numbers in a sequential fashion to reduce the possibility of confussion and clear the entry 4a4d

Note that the first two suggestions follow the protocol while the last two do not. 4a5

The idea of flow control on the control link was suggested. A Request for Comments is to be prepared exploring this idea more fully. 4a6

The usefullness of the ERR command is compromised if the receiver mearly throws it away. Thus ERR's are to be logged, if at all possible, and checked out with the sending site. 4a7

The NCP document should make clear the implicatinns of queueing or not queueing STR & RTS commands. 4a8

Initial Connection Protocol 5

The Initial Connection Protocol (ICP) was discussed and found to be satisfactory however the following points were stressed: 5a

The socket number sent by the logger (S) must be in agreement with the socket numbers used in the STR & RTS sent by the logger. 5a1

The implications of queueing or not queuing of RTS & STR commands should be made clear in the ICP document. This is particularlly important if the user chooses the "listen" option. 5a2

Telnet Protocol 6

The Telnet commmittee has been reactivated to consider the following problems: 6a

Clarification of the terminology half duplex, full duplex, character mode, line mode, ASCII, and echoing. 6a1

Clarification of the end of line convention. Especially to answer the question "Should there be a special end-of-line character?". 6a2

Clarification of the conditions for leaving Hide-your-input mode. 6a3

Clarification of the operation of Break and Synch. 6a4

Specification of a server-to-user Synch. 6a5

Clarification of the definition of the Network Virtual Terminal. 6a6

Preperation of a new document defining the Telnet protocol with the above improvements. 6a7

The protocol workshop did agree that: 6b

It is the servers option for disconnection to imply logout or not. 6b1

It is the servers option for logout to imply disconnection or not. 6b2

Extra characters used locally to fill the time for format effectors to take effect should not be sent over the network. 6b3

Synch means to examine the data stream from the current point to a data mark (x'80'). If any break type characters (e.g. etx, sub, Break) are found they are to have their normal effect. 6b4

Upper and lower case are to be available to all Telnet users. 6b5

Data and File Transfer Protocol 7

The Data and File Transfer Committee will report separately. 7a

NWG/RFC# 295 JBP 2-JAN-72 15:35 8355
Protocol Workshop Report

This is a much belated report on the protocol workshop held in conjunction with the NWG meeting in Boston last October.